The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

WWW.SKYMAPS.COM

SOUTHERN HEMISPHERE
JUNE 2013

Sky Calendar – June 2013

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7 **Moon near the Pleiades** (17° from Sun, morning sky) at 2h UT.

7 **Moon near Mars** (12° from Sun, morning sky) at 14h UT. Mag. +1.4.

8 **New Moon** at 15:58 UT. Start of lunation 1119.

9 **Moon at apogee** (farthest from Earth) at 22h UT (distance 406,486 km; angular size 29.4').

10 **Moon near Venus** (19° from Sun, evening sky) at 9h UT. Mag. –3.9.

11 **Moon near Pollux** (evening sky) at 15h UT.

12 **Mercury at greatest elongation**, 24° east of Sun (evening sky) at 17h UT. Mag. +0.5.

12 **Moon near Beehive cluster** (46° from Sun, evening sky) at 21h UT.

14 **Moon near Regulus** (evening sky) at 18h UT.

16 **First Quarter Moon** at 17:24 UT.

18 **Moon very near Spica** (116° from Sun, evening sky) at 22h UT. Occultation visible from southern Africa and Madagascar.

19 **Jupiter at conjunction** with the Sun at 16h UT. Passes into the morning sky (not visible).

19 **Moon near Saturn** (127° from Sun, evening sky) at 17h UT. Mag. +0.5.

20 **Mercury 1.9° S of Venus** (22° from Sun, evening sky) at 7h UT. Mags. +1.3 and –3.9. An excellent opportuntiy to find elusive Mercury.

21 **June solstice** at 5:04 UT. The time when the Sun reaches the point farthest north of the celestial equator marking the start of summer in the Northern Hemisphere and winter in the Southern Hemisphere.

22 **Moon near Antares** (evening sky) at 0h UT.

22 **Venus 5.2° S of Pollux** (22° from Sun, evening sky) at 8h UT. Mags. –3.9 and +1.2.

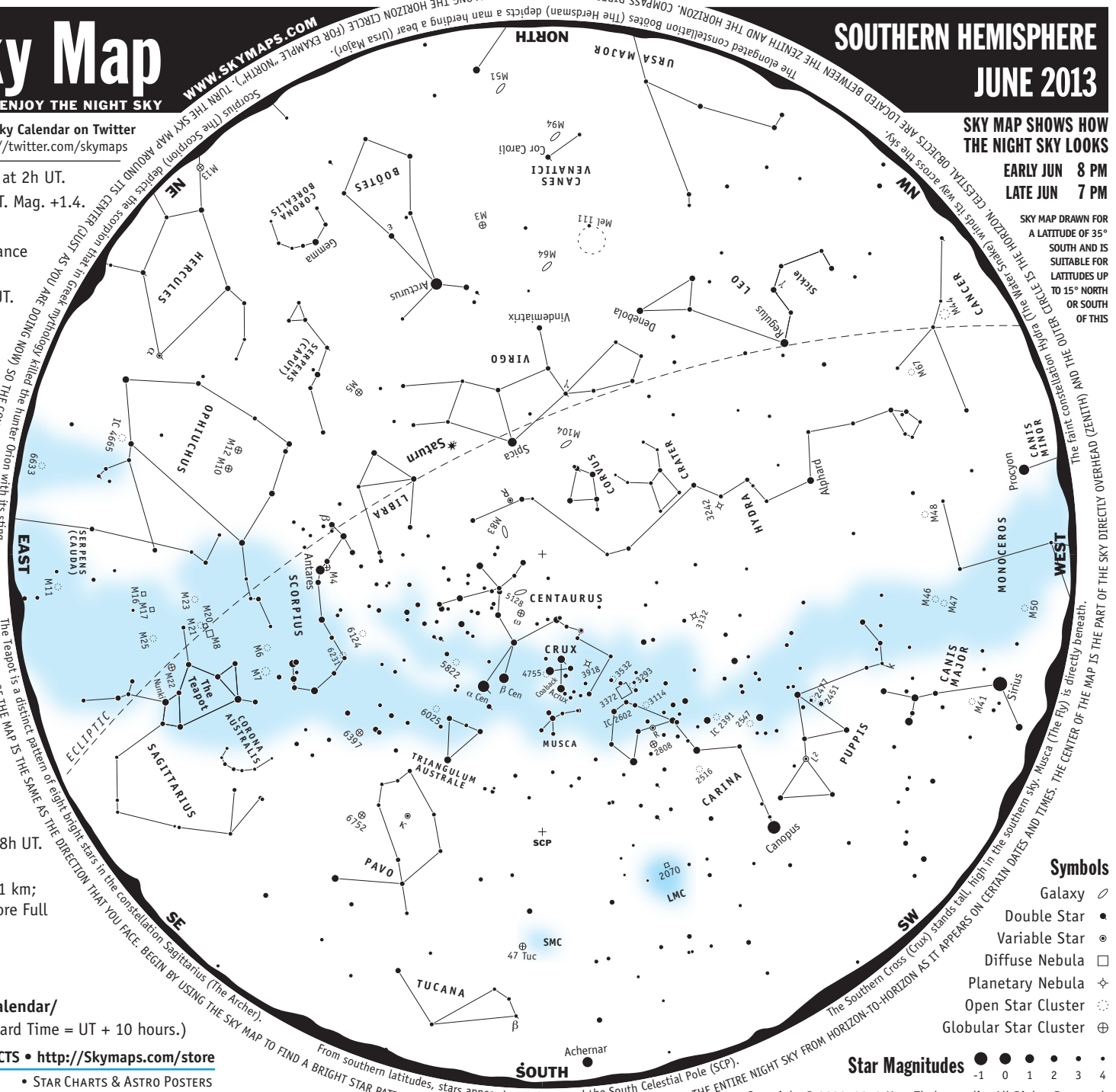
23 **Moon at perigee** (closest to Earth) at 11h UT (356,911 km; 33.5'). Nearest in 2013. Occurs about half an hour before Full Moon so very high tides expected!

23 **Full Moon** at 11:33 UT.

30 **Last Quarter Moon** at 4:54 UT.

More sky events and links at http://Skymaps.com/skycalendar/

All times in Universal Time (UT). (Australian Eastern Standard Time = UT + 10 hours.)



Scorpius (The Scorpion) depicts the scorpion that in Greek mythology killed the hunter Orion with its sting. SO THE COMPASS DIRECTION THAT APPEARS ALONG THE BOTTOM OF THE MAP IS THE SAME AS THE DIRECTION THAT YOU FACE. BEGIN BY USING THE SKY MAP TO FIND A BRIGHT STAR PATTERN IN THE SKY.

The elongated constellation Boötes (The Herdsman) depicts a man herding a bear (Ursa Major). COMPASS DIRECTIONS ARE INDICATED ALONG THE HORIZON CIRCLE (FOR EXAMPLE "NORTH"). TURN THE SKY MAP AROUND ITS CENTER (JUST AS YOU ARE DOING NOW) SO THE COMPASS DIRECTION THAT APPEARS ALONG THE BOTTOM OF THE MAP IS THE SAME AS THE DIRECTION THAT YOU FACE. BEGIN BY USING THE SKY MAP TO FIND A BRIGHT STAR PATTERN IN THE SKY.

The Teapot is a distinct pattern of eight bright stars in the constellation Sagittarius (The Archer).

From southern latitudes, stars appear to rotate around the South Celestial Pole (SCP).

The Southern Cross (Crux) stands tall, high in the southern sky. Musca (The Fly) is directly beneath.

The faint constellation Hydra (The Water Snake) winds its way across the sky. THE OUTER CIRCLE IS THE HORIZON. CELESTIAL OBJECTS ARE LOCATED BETWEEN THE ZENITH AND THE HORIZON.

The Southern Cross (Crux) stands tall, high in the southern sky. Musca (The Fly) is directly beneath. THE CENTER OF THE MAP IS THE PART OF THE SKY DIRECTLY OVERHEAD (ZENITH) AND THE OUTER

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS

EARLY JUN 8 PM
LATE JUN 7 PM

SKY MAP DRAWN FOR A LATITUDE OF 35° SOUTH AND IS SUITABLE FOR LATITUDES UP TO 15° NORTH OR SOUTH OF THIS

Symbols

Galaxy
Double Star
Variable Star
Diffuse Nebula
Planetary Nebula
Open Star Cluster
Globular Star Cluster

Star Magnitudes -1 0 1 2 3 4

From southern latitudes, stars appear to rotate around the South Celestial Pole (SCP).

INSTRUCTIONS: THE SKY MAP SHOWS THE ENTIRE NIGHT SKY FROM HORIZON-TO-HORIZON AS IT APPEARS ON CERTAIN DATES AND TIMES. THE CENTER OF THE MAP IS THE PART OF THE SKY DIRECTLY OVERHEAD (ZENITH) AND THE OUTER

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About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. Australian Eastern Standard Time (Sydney, Australia) is UT plus 10 hours.

Variable Star – A star that changes brightness over a period of time.

CELESTIAL OBJECTS

SOUTHERN HEMISPHERE

JUNE 2013

Skymaps.com

Easily Seen with the Naked Eye

Arcturus	Boo	•	Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.
Canopus	Car	•	Second brightest star in the sky. 14,000 times more luminous than the Sun. Dist=309 ly.
β Centauri	Cen	•	With Alpha Centauri, forms the so-called "Pointers-to-the-Cross". Dist=525 ly.
α Centauri	Cen	•	Nearest bright star to Sun at 4.4 ly. Brilliant double star in a telescope. 80 year period.
Coalsack	Cru	◆	Most famous naked-eye dark nebula. Requires dark sky. Dist=600 ly.
Regulus	Leo	•	Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Antares	Sco	•	Red, supergiant star. Name means "rival of Mars". Dist=135.9 ly.
Spica	Vir	•	Latin name means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.

Easily Seen with Binoculars

6397	Ara	⊕	Thought to be the nearest globular. Dist=7,000 ly.
M3	CVn	⊕	Easy to find in binoculars. Might be glimpsed with the naked eye.
2516	Car	⁘	Spectacular open star cluster of 100 stars spaning 1/2 deg. Dist=1,300 ly.
2808	Car	⊕	Located 4 deg W of Nu Carinae. Visible to the naked eye on clear nights.
R Carinae	Car	◉	Long period variable. Magnitude varies between 3.9 & 10.5 over 309 days.
3114	Car	⁘	Stunning open cluster. 30+ stars visible through 7x binoculars. Dist=2,900 ly.
3293	Car	⁘	Rich, tightly packed. Surrounded by large, faint nebulosity. Dist=8,500 ly.
IC 2602	Car	⁘	The "Five of Diamonds". Bright cluster twice diameter of full Moon. Dist=491 ly.
3372	Car	□	Eta Carinae Nebula. Enormous glowing cloud in rich star field. Dist=8,000 ly.
3532	Car	⁘	Herschel - "most brilliant cluster". 60+ stars in 7x binoculars. Dist=1,300 ly.
ω Centauri	Cen	⊕	Largest and brightest globular star cluster in sky. 1 million stars. Dist=17,000 ly.
Mel 111	Com	⁘	Coma Berenices. 80 mag 5-6 stars in 5 deg. Dist=283 ly. Age=400 million years.
4755	Cru	⁘	Jewel Box. Outstanding star cluster. Many contrasting colours. Dist=7,600 ly.
LMC	Dor	⌀	Large Magellanic Cloud. A neighbouring galaxy of the Milky Way. Dist=180,000 ly.
R Hydrae	Hya	◉	Long period variable. Mag varies between 3.0 & 11.0 over 390 days. Brilliant red.
M10	Oph	⊕	3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly.
κ Pavonis	Pav	◉	Cepheid-type. Magnitude varies between 3.9 & 4.8 over 9.088 days.
6752	Pav	⊕	One of the better globular star clusters in the sky. Dist=14,000 ly.
M8	Sgr	□	Lagoon Nebula. Bright nebula bisected by a dark lane. Dist=5,200 ly.
M22	Sgr	⊕	A spectacular globular star cluster. Telescope will show stars. Dist=10,000 ly.
M4	Sco	⊕	A close globular. May just be visible without optical aid. Dist=7,000 ly.
6231	Sco	⁘	Easy to see in binoculars. Dist=5,900 ly.
M6	Sco	⁘	Butterfly Cluster. 30+ stars in 7x binoculars. Dist=1,960 ly.
M7	Sco	⁘	Superb open cluster. Visible to the naked eye. Age=260 million years. Dist=780 ly.
M5	Ser	⊕	Fine globular star cluster. Telescope will reveal individual stars. Dist=25,000 ly.
6025	TrA	⁘	A small open star cluster in Milky Way. Dist=2,700 ly.
SMC	Tuc	⌀	Small Magellanic Cloud. Companion galaxy to Milky Way. Requires dark sky. Dist=210,000 ly.
2547	Vel	⁘	Fine open cluster visible through binoculars. Dist=1,300 ly.
IC 2391	Vel	⁘	Omicron Velorum Cluster. Superb object for binoculars. Dist=450 ly.

Telescopic Objects

ε Boötis	Boo	◉	Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split.
3918	Cen	✧	The Blue Planetary. Visible in a small telescope as a round blue disk.
5128	Cen	⌀	Bisected by a wide obscuring lane. Strong radio source. Dist=11 million ly.
M64	Com	⌀	Black-Eye Galaxy. Discovered by J.E. Bode in 1775 -- "a small, nebulous star".
3242	Hya	✧	Ghost of Jupiter. Bright blue disk. Mag 11 central star. Dist=2,600 ly.
M83	Hya	⌀	Classic face-on spiral. Discovered in 1752 by Lacaille. In attractive star field.
5822	Lup	⁘	Large, attractive cluster. Dist=1,800 ly. Open cluster NGC 5823 to the south.
M23	Sgr	⁘	Elongated star cluster. Telescope required to show stars. Dist=2,100 ly.
M20	Sgr	□	Trifid Nebula. A telescope shows 3 dust lanes trisecting nebula. Dist=5,200 ly.
M21	Sgr	⁘	A fine and impressive cluster. Dist=4,200 ly.
M17	Sgr	□	Omega Nebula. Contains the star cluster NGC 6618. Dist=4,900 ly.
6124	Sco	⁘	Contains 5 bright tightly packed stars near centre. 7 star chain. Dist=1,600 ly.
M16	Ser	□	Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 ly.
3132	Vel	✧	One of the brightest planetaries. Magnitude 10 central star. Dist=2,600 ly.
M104	Vir	⌀	Sombrero Galaxy. Almost edge-on spiral galaxy. Protruding central core.
γ Virginis	Vir	◉	Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.

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